

REMARKS

Applicants have carefully reviewed the arguments presented in the Office Action and respectfully request reconsideration and allowance of the claims in view of the remarks presented below.

Claim 2 has been canceled. Claims 16 and 27 have been amended. Thus, claims 1 and 3-39 are pending in the application.

Claims 16 and 27 were amended to correct inadvertent typographical errors. No new matter was added.

Claims 1 and 3-39 were rejected under 35 U.S.C. 103(a) as being unpatentable over RO-102047 A. Applicant respectfully traverses these rejections.

While RO-102047 does appear to disclose a masterbatch having 0-75 parts PVC, the weight of publications, including Brady and Berard, cited previously by the Examiner, acknowledge the instability of PVC, and, as set forth in the application on page 2 as filed, use of PVC in a masterbatch, as opposed to the final product, which can include PVC, is undesirable. The inclusion of PVC in a masterbatch reduces the processing quality of the masterbatch when being processed for long periods of time, making it very difficult to subject the PVC containing compound to the amount of shear required to completely blend all of the components in a final product. Applicant's masterbatch as claimed does not include PVC and thus permits the masterbatch to be worked or blended to achieve complete dispersion of all of the components of the masterbatch. In addition, the omission of PVC from the claimed masterbatch has the advantage that increased loading of the masterbatch to the uncolored PVC compound used for the final product can be achieved.

RO-102047 actually teaches away from the novel masterbatch claimed by Applicant in that it teaches the inclusion of PVC in the masterbatch. Note that RO-102047 states that PVC can be included in 0-75 parts. There is no proscription against the inclusion of PVC, just that a compound can be made with 0 parts PVC. In contrast, Applicant explicitly excludes all PVC from the claimed masterbatch.

Applicant's claimed masterbatch would not be obvious to one skilled in the art reading RO-102047. Indeed, inclusion of PVC in a masterbatch is well known, as indicated by the page

from "Plastic Additives" by Gachter/Muller, published by Hanser Press, and attached hereto as Appendix A. This publication, as well as the Brady and Berard references show that one skilled in the art would not find it unusual to include PVC; rather, they would find it unusual to exclude PVC from a masterbatch. This is objective evidence of nonobviousness.

Further, the abstract of RO-102047 itself indicates that PVC is to be included, not excluded, from the masterbatch, stating: "The PVC is mixed in a fluidised bed mixer . . . [with other constituents]." Polyethylene stearine and esters are then added. Those skilled in the art understand that this provides better mixing and improved properties in the final material. However, that is not what is being claimed by Applicant, who has discovered the claimed method of making a masterbatch without PVC that provides the advantages described above without the process difficulties incurred by the methods usually used and known by those skilled in the art. For these reasons, Applicant respectfully submits that claims 1, 16, 18, 19, 20 and 31, and the claims dependent therefrom, are patentable and request that the rejections be withdrawn and that claims 1 and 3-39 be allowed.

CONCLUSION

Applicants have carefully reviewed the arguments presented in the Office Action and respectfully request reconsideration of the claims in view of the remarks presented. In light of the above amendments and remarks, Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Should the Examiner have any questions concerning the above amendments and arguments, or any suggestions for further amending the claims to obtain allowance, Applicants request that the Examiner contact Applicants' attorney, John Fitzgerald, at 310-242-2667.

The Commissioner is authorized to credit any overpayment or charge any additional fees in this matter to our Deposit Account No. 06-2425. A duplicate of this paper is enclosed.

Respectfully submitted,

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480 *Lubricants and Related Additives*

6.8 References

PLASTIC ADDITIVES
GACHTER/MUELLER
HANSER PRESS

1. Praktische Rheologie der Kunststoffe. VDI-Gesellschaft Kunststofftechnik (ed.), VDI-Verlag, Düsseldorf 1978
2. Berens, A.R.; Foll, V.L.: *Trans. Soc. Rheol.* 11 (1967) 1, p. 95
3. Potente, H.; Schultheis, S.M.: *Kunststoffe* 77 (1987) 4, p. 401
4. Riedel, T.: *Kunststoffe* 77 (1987) 10, p. 1081
5. Rohde, D.: *Chem. Ind.* 39 (1987) 6, p. 24
6. Pukanszky, B., jun.: *Pekanszky, B., sen.; Jozsa, S.: Angew. Makromol. Chem.* 79 (1979) p. 107
7. Riehmeyer, S.: *Seifen/Öle* 98 (1972) 7, p. 193; 8, p. 227; 10, p. 322; 12, p. 399
8. Illmann, G.: *SPE* 1, 23 (1967) p. 71
9. Meier, L. in: *Becker, G.; Braun, D. (ed.): Kunststoff-Handbuch* 2. Aufl. Bd. 2/1: Polyvinylchlorid. Hanser, München, Wien 1986, p. 614
10. Pfahler, G.; Riedel, T.: *Kunststoffe* 66 (1976) 10, p. 694
11. Bendtsen, N.: *Disa*. TH Aachen 1978
12. Parey, J.; Krüger, E.: *Kunststoffe* 74 (1984) 1, p. 39
13. Worschke, K. in: *Becker, G.; Braun, D. (ed.): Kunststoff-Handbuch* 2. Aufl. Bd. 2/1: Polyvinylchlorid. Hanser, München, Wien 1986, p. 571
14. Herlen, J.F.; Louie, B.: *Kunststoffe* 75 (1985) 10, p. 743
15. Fleischer, D.: *Maschinenmarkt* 86 (1980) p. 453
16. Hegler, R.-P.; Menig, G.; Weber, G.: *Kunststoffe* 73 (1983) 7, p. 353
17. Bower, J.D.: *Region. lect. conf., The Soc. of Plast. Eng., Quebec* 15/16.9.1984, p. 97
18. Winter, H.H.; Hüb, E.: *Anlee* 1985, p. 613
19. Keller, R.: *Kunststoffe* 76 (1986) 7, p. 586
20. Breuer, T.E.: *Anlee* 1984, p. 141
21. German Patent 2652628 (1976) Hoechst AG
22. Schille, H.; Fritz, H.-G.: *Kunststoffe* 75 (1985) 7, p. 399
23. Brann, R.: *Teile-Seifen/Austrichm.* 82 (1979) p. 76
24. Moos, K.-H.: *Kunststoffe* 75 (1985) 1, p. 3
25. Kaminski, A.: *Kunststoffe* 66 (1976) 4, p. 208
26. Barth, H.: *Kunststoffe* 69 (1979) 7, p. 570
27. Meißner, J.: *Rheol. Acta* 10 (1971) 12, p. 230
28. Worschke, K.F.: *SPE Soc. Plast. Eng. Techn. Pap.* 23 (1977) p. 219
29. Collings, H.: *Kunststoffe* 76 (1986) 11, p. 1062
30. DIN 67530: ISO 2813-78
31. E DIN 4762 part 1; ISO 4287-1-84
32. Braun, R.: *Seifen/Öle* 115 (1989) 5, p. 167
33. German Patent 1907768 (1969) Neymber Chemie GmbH
34. Franck, R.; Wiczorek, H.: *Kunststoffe im Lebensmittelverkehr*. Heymanns, Köln, Berlin 1987, T.A. p. 104
35. Worschke, K. in: *Becker, G.; Braun, D. (ed.): Kunststoff-Handbuch* 2nd ed., vol. 2/1: Polyvinylchlorid. Hanser, München, Wien 1986, p. 570
36. Rudolf, M.; Fritz, H.-G.; Geiger, K.: *Kunststoffe* 77 (1987) 5, p. 480
37. German Patent 1814149 (1968) Hoechst AG

7 High-Polymeric Processing Aids for PVC

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7.1 Fundamentals of the PVC compound

7.1.1 General remarks

PVC is a very special type of thermoplastic. Its special character lies above all in the particularly pronounced internal instability of the pure polymer, in its rheological behavior and the readiness with which it accepts high quantities of plasticizers and fillers. Therefore, a PVC compound ready for processing is always a mixture of various components, in which the pure polymer is not necessarily the chief constituent in quantitative terms. The expression "PVC compound" as used in this paper shall, unless otherwise stated, be the mixture of a single PVC polymer with its various additives. Compounds containing several PVC polymers are the exception.

Due to this special position PVC has always been regarded as a "custom-tailored" plastics material, and as such it anticipated a development which has meanwhile reached the entire field of synthetic resins and resin blends.

7.1.2 The historical development of high-polymeric processing aids for PVC

In terms of stabilization and thermoplastic processing, plasticized PVC was highly developed at a fairly early stage, and, since the forties at least, it has been regarded as a synthetic resin characterized by ease of processing. The development of safely manageable compounds of rigid PVC, on the other hand, took several decades. In Europe, the general shortage of raw materials, due to economic difficulties and the war, accounted for the fact that the Germans in particular tackled the processing problems of rigid PVC mainly from the equipment angle. As a result of these intense efforts, technically perfected processing machinery has been available for the last 25 years or so.

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